REMARKS

This is in response to the final Office Action mailed October 24, 2006. In that Office Action, the Examiner indicated that Claims 9, 10 and 37-57 are pending, Claims 9, 10, 35-39, 41-46 and 49-57 are withdrawn, and Claims 40, 47 and 48 are rejected.

Interview Summary

Applicants' representative thanks the Examiner for the courteous telephonic interview conducted on December 20, 2006. During the interview Applicants' representative and the Examiner discussed the withdrawal of Claims 9 and 10 and the prior art rejections. No agreement was reached.

Discussion of Restriction Requirement

The Examiner argues that newly submitted Claims 37-57 and the "new embodiments" of Claims 9 and 10 are directed to an invention that is independent or distinct from the invention originally claimed. The Examiner argues that Claims 9-46 (Group I) are drawn to isolated compounds that inhibit Survivin, while Claims 40, 47 and 48 (Group II) are drawn to isolated compounds comprising a polyclonal antibody, and Claims 49-57 (Group III) are drawn to a method of inhibiting Survivin.

Initially, Applicants note that Claims 9, 10 and 35-39 are, in fact, related to an isolated compound comprising antisense nucleic acids or siRNA. Claims 40-48 relate generally to isolated compounds that inhibit the activity of Survivin and reduce the activity of HBXIP wherein the compounds can include antisense molecules, siRNA, antibodies, or polyclonal antibodies. Claim 47 relates to any type of antibody, whereas Claims 48 relates to polyclonal antibodies. Claims 49-57 relate to methods of inhibiting Survivin as indicated by the Examiner. Thus, a review of the pending claim language indicates that Claim 40 is generic to any type of compound that inhibits the anti-apoptotic activity of Survivin and that Claims 47 and 48 are species of the generic class of compounds. Moreover, Claims 9-39 relate to the species of compounds which inhibit interaction of Survivin with HBXIP and comprise antisense nucleic acids or siRNA.

The Examiner argues that Applicants had received an Action on the Merits and that the invention of Group II, relating to isolated compounds comprising a polyclonal antibody, was examined on the merits in the Office Action mailed February 22, 2006. Following that logic, the Examiner withdrew Claims 9, 10, 35-39, 41-46 and 49-57 in the October 24, 2006 Office Action and only examined Claims 40, 47 and 48. However, as discussed below, no such constructive election has actually been made in this application.

A Restriction Requirement was mailed in this case on December 13, 2005 wherein Applicants elected Group III relating to any type of compound that inhibits Survivin. The Examiner then mailed a first Office Action on the merits on February 22, 2006 wherein pending Claims 9 and 10, relating to compounds that inhibit Survivin, were examined. Claim 9 was directed towards any compound that inhibited Survivin, and thus the Examiner would have searched that entire class of compounds in order to provide the February 22, 2006 Office Action. Applicants then filed an Amendment on August 10, 2006 to amend Claim 9 to relate to antisense nucleic acids. A Supplemental Amendment was filed a few days later, on August 22, 2006 wherein Claim 9 was again amended to also include siRNA compounds. In the August 22, 2006 Supplemental Amendment, Applicants also added new Claims 35-39, which depend from Claim 9. In addition, new Claims 40-48 relating to isolated compounds and Claims 49-57 relating to methods of using the compounds of Claim 40 were also included.

At no time did Applicants constructively elect to prosecute claims relating to antibodies. In fact, there were no pending claims relating to antibodies prior to Applicants' Supplemental Amendment filed on August 22, 2006. It was in this Supplemental Amendment that antibody Claims 40, 47 and 48 were first presented to the Examiner. Thus, Applicants could not have received an action on the merits relating to polyclonal antibodies, as no such antibody claims were pending at the time of the prior Office Action. Accordingly, the only election that has been made in this case is directed to compounds that inhibit Survivin. For all of these reasons, withdrawal of Claims 9, 10, 35-39 and 41-46 is inappropriate.

For all of these reasons, Applicants respectfully request withdrawal of the restriction requirement alleged in the final action mailed October 24, 2006 and examination of Claims 9, 10 and 35-48 which relate to compounds that inhibit Survivin, which were the subject of the original

election made by Applicants in response to the Restriction Requirement mailed on December 13, 2005.

Request for Withdrawal of Finality and Issuance of New Action

Applicants hereby request withdrawal of the finality of the pending Office Action and issuance of a new Office Action which includes examination of compound Claims 9, 10, and 35-48. Because these pending claims should have been examined in the Office Action mailed October 24, 2006, Applicants argue that the Examiner should issue a new Office Action which fully examines all of the pending claims.

Discussion of Rejection under 35 U.S.C. § 112 - Written Description

The Examiner argues that the claims are drawn to any compound that inhibits anti-apoptotic activity of Survivin by reducing the activity of HBXIP and that the current specification contemplates compounds that include antisense nucleic acids, siRNA, antibodies, small molecules, peptides and petidomimetics. The Examiner states that "to provide adequate written description and evidence of the possession of the claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus". The Examiner continues to argue that "Applicant's claims pertain to a function of a compound that has an unknown structure". Applicants respectfully disagree with this interpretation of the requirements to meet the written description requirement of 35 U.SC. § 112.

To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, e.g., *Moba, B.V. v. Diamond Automation*, Inc., 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); Vas-Cath, Inc. v. Mahurkar, 935 F.2d at 1563, 19 USPQ2d at 1116. There is a strong presumption that an adequate written description of the claimed invention is present when the application is filed. *In re Wertheim*, 541 F.2d 257, 263, 191 USPQ 90, 97 (CCPA 1976) Although structural formulas provide a convenient method of demonstrating possession of specific molecules, other identifying characteristics or combinations of characteristics may demonstrate the requisite possession. *Falkner v. Inglis*, No. 05-1324 (US Court of Appeals for the Federal Circuit, May 26, 2006)

In *Falkner* the Federal Circuit concluded that:

> (1) examples are not necessary to support the adequacy of a written description (2) the written description standard may be met (as it is here) even where actual reduction to practice of an invention is absent; and (3) there is no per se rule that an adequate written description of an invention that involves a biological macromolecule must contain a recitation of the known structure.

The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species, by actual reduction to practice, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. See *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406. What constitutes a "representative number" is an inverse function of the skill and knowledge in the art. *See* MPEP § 2163.

As discussed in Applicants' prior response, the specification demonstrates that Applicants were in possession of a number of species of isolated compounds that inhibit Survivin, including antisense compounds, siRNA compounds and antibodies. Although Applicants did not provide a specific working example of using small molecules to inhibit the anti-apoptotic activity of Survivin, such an example is clearly not required according to the Federal Circuit (*see Falkner v. Inglis*). All that Applicants need show is that one of ordinary skill in the art would *reasonably* believe that Applicants were in possession of the genus of compounds that inhibit the anti-apoptotic activity of Survivin. The specification clearly describes a representative number of species of compounds through its full description of antisense compounds, siRNA compounds and antibodies which inhibit the anti-apoptotic activity of Survivin. As discussed previously, specific descriptions of using small molecules is shown under the heading "SMALL MOLECULES" on page 23 of the specification. This, in combination with Applicants description of assays for screening compounds that inhibit HBXIP and thereby inhibit the activity of Survivin would lead one of ordinary skill to reasonably believe that Applicants were in possession of their claimed invention.

The claims do not relate to "a function of a compound that has an unknown structure" as alleged by the Examiner, but in fact relate to a genus of compounds where Applicants' have fully

identified the structure of many known species. The specification describes a multitude of species including antisense compounds, siRNA compounds and antibodies that would demonstrate to one of ordinary skill in the art that Applicants were in full possession of the genus of isolated compounds that inhibit hepatitis B X-interacting protein (HBXIP) which results in a reduced anti-apoptotic activity of Survivin. Accordingly, Applicants respectfully request withdrawal of the rejection for lack of written description.

Discussion of Rejection Under 35 U.S.C. § 102

The Examiner rejected Claims 40 and 47 as being anticipated by Banks et al. (hereinafter "Banks"). The Examiner argued that Banks discloses an antibody which binds Survivin, and thus would prevent Survivin from binding any protein, including HBXIP. Applicants respectfully disagree.

Initially Applicants note that Banks does not directly teach an antibody that binds Survivin and inhibits its binding to HBXIP. In fact, there is no discussion of where on Survivin the antibody from Banks binds, nor any teaching that it would inhibit Survivin's binding to HBXIP. Thus, the Examiner must be relying on the fact that such an antibody would inherently provide the recited effect of reducing the activity of HBXIP. However, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

In the present case, the antibody discussed by Banks was used on a Western Blot to identify protein bands which contain Survivin. As known, a Western Blot typically involves denaturation of a protein sample followed by treatment with SDS, a strong detergent and reducing agent in order to prevent the protein from regaining its tertiary structure. These proteins are separated on an acrylamide gel according to molecular weight and thereafter probed with an

antibody which identifies the denatured conformation of the protein. Accordingly, the antibody described by Banks would not necessarily, and indeed is unlikely, to bind the native folded form of Survivin. Moreover, it would be even more unexpected for such an antibody to bind the exact epitope of Survivin which would inhibit it from further binding to HBXIP.

Accordingly, Banks does not directly, nor inherently, teach a compound which would inhibit the anti-apoptotic activity of Survivin and reduce the activity of HBXIP. As is known, proteins such as Survivin may have hundreds or thousands of epitopes, only a very few of which would prevent the protein from binding to another component. For this reason, Banks does not anticipate Claims 40 or 47.

The Examiner also rejected Claims 40, 47 and 48 as being anticipated by Yagihashi. The Examiner argued that Yagihashi disclosed a polyclonal antibody found in human sera and that such an antibody, by binding Survivin, would prevent Survivin from binding any protein including HBXIP. Applicants respectfully disagree.

In fact, Yagihashi does not describe *an isolated compound* comprising a polyclonal antibody, as recited in independent Claim 40. In the described experiment, *human sera* was used in an ELISA assay to detect whether a patient had made antibodies against Survivin. There was no description of any isolated compounds whatsoever. The assay only looked to determine whether any antibodies within the sera bound to Survivin. None of the antibodies were isolated from the sera. While a monoclonal antibody against Survivin is mentioned (page 1730, right column), that antibody was only used in a denaturing Western Blot to detect the presence of Survivin. Similar to the argument made above, such an antibody would not be expected to bind the native form of Survivin, particularly at the particular epitope that would inhibit binding of HBXIP. For this reason, the disclosure of Yagihashi would not anticipate the pending claims.

For all of the above reasons, Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 102.

CONCLUSION

Applicants have endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. Accordingly, amendments to the claims, the reasons therefor, and arguments in support of the patentability of the pending claim set are presented above. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections is specifically requested. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to initiate the same with the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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